Annual WATER QUALITY REPORT

Reporting Year 2012

Presented By _____

LaGRANGE georgia
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PWS ID#: 2850001

Meeting the Challenge

We are proud to present this Annual Water Quality Report for calendar year 2012. The results in the report demonstrate that our water system remains in full compliance with all Safe Drinking Water Act requirements. Please remember that we are always available to assist you with any questions or concerns about your drinking water.

Unbeatable Value

The City supplies tap water at a tremendous value. Customers can get their recommended eight glasses of water per day for an entire year for only 67 cents. That's 67 cents for 2,920 glasses of water. The same amount of bottled water from a vending machine would cost about three thousand times as much. The fact is, studies have shown that almost half of that expensive bottled water comes from taps.

Community Participation

LaGrange city council meetings are held on the second and fourth Tuesday of each month at 5:30 p.m. in the Council Chambers located at 208 Ridley Avenue, LaGrange, Georgia.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Substances That Can Be Found in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

Important Health Information for People with Depressed Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791 or http://water.epa.gov/drink/hotline.

Where Does My Drinking Water Come From?

The City of LaGrange's water supply comes from the abundant resources of the Chattahoochee River and West Point Lake Reservoir. There are sufficient quantities of water in this basin to supply our community's needs now and well into the future. Our advanced treatment process ensures that source water is thoroughly disinfected, cleaned, and filtered prior to delivery to customers. Unfortunately, we do experience occasional taste and odor problems, during late summer and early fall, associated with algae growth in the lake.

Source Water Assessment

A source water assessment has been conducted on the City of LaGrange watershed as required by the Safe Drinking Water Act. The purpose of the assessment is to identify potential sources of contamination and the possible risk that is imposed on our water supply. Our overall susceptibility to source water contamination was determined through this analysis to be low. A copy of the report can be obtained from the City upon request.

Questions?

For more information about this report or if you have any questions about your drinking water, please contact Theo Jamison, Water Plant Manager, at 706-883-2130. You may also email us at utilities@lagrange.net or visit our website at www.lagrange.net.

The Water Treatment Process

Creating clean drinking water consists of a series of steps. First, source water is pumped from West Point Lake into a temporary holding pond at the Walter Williams Filtration Plant located on Cameron Mill Road. Water then flows by gravity to a mixing basin where aluminum sulfate and complex polymers are added. These chemicals cause particles in the water to combine into larger particles, called floc, that settle to the bottom of basins for later removal. Chlorine and chlorine dioxide are then added for disinfection, metal removal, and taste and odor control. At this point, the water is filtered through layers of fine coal and silicate sand to remove any remaining particles. Turbidity, a measure of water clarity, and particle counts are regularly monitored by plant operators to ensure that only clean drinking water emerges from the filters. Chlorine is added a second time before the water is stored in underground holding tanks to allow time for disinfection to occur. We carefully measure the amount of chlorine used to ensure the safety of your water without allowing harmful levels of disinfection by-products to form. Finally, sodium hydroxide is added to control pH and alkalinity, fluoride is added as required by law to prevent tooth decay, and a corrosion inhibitor is added to protect piping before the water is pumped into the distribution system and eventually to your home or business.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and on pets' water bowls is caused by the growth of the bacterium *Serratia marcesens*. Serratia is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria.

Federal regulations require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-connection Control Manual from the U.S. EPA's website at http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm. You can also call the Safe Drinking Water Hotline at 800-426-4791.

Testing Results

During the past year, we have taken hundreds of water samples to look for the presence of radioactive, biological, inorganic, volatile organic, and synthetic organic compounds. The table below shows only those substances that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2012	[4]	[4]	1.22	1.02–1.43	No	Water additive used to control microbes
Chlorine Dioxide (ppb)	2012	[800]	[800]	230	80–510	No	Water additive used to control microbes
Chlorite (ppm)	2012	1	0.8	0.27	0.07–0.45	No	By-product of drinking water disinfection
Fluoride (ppm)	2012	4	4	0.87	0.68–1.07	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]–Stage 1[1] (ppb)	2012	60	NA	15.5	13–20	No	By-product of drinking water disinfection
Nitrate (ppm)	2012	10	10	0.0023	0.0023–0.0023	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 1[1] (ppb)	2012	80	NA	34.8	18–47	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2012	TT	NA	1.45	1.10–1.90	No	Naturally present in the environment
Turbidity[2] (NTU)	2012	TT=< 1 NTU	NA	0.50	0.01–0.50	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2012	TT= 95% of samples < 0.3 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012	1.3	1.3	0.20	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	2.5	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2012	200	NA	20	10–20	No	Erosion of natural deposits; Residual from some surface water treatment processes
Iron (ppb)	2012	300	NA	10	10–30	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2012	50	NA	10	10–30	No	Leaching from natural deposits
pH (Units)	2012	6.5–8.5	NA	7.3	7.1–8.1	No	Naturally occurring

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2012	5.1	NA	By-product of drinking water disinfection
Bromoform (ppm)	2012	0	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2012	3.1	NA	By-product of drinking water disinfection
Chloroform (ppb)	2012	3.9	NA	By-product of drinking water disinfection

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1,2-Dichlorobenzene (ppb)	2012	4.2	NA
4-Bromofluorobenzene (ppb)	2012	4.4	NA

[1] We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is used to identify locations in our distribution system that have elevated disinfection by-products. Disinfection by-products, such as Haloacetic Acids and Trihalomethanes, form when disinfectants used in the treatment process combine with organic matter that occurs naturally in source water.

[2] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.